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LAND APPLICATION OF BIOSOLIDS
JAMIE CROWDER

NK 13 (FIELDS 1-8, 10-12, 15-20, 23-27)
NEW KENT COUNTY, VIRGINIA
JULY 2013



July 29, 2013

Mr. Seth Mullins
Dept. of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, VA 23060

Dear Mr. Mullins:

Transmitted herein for your consideration is land application site for Alvin Stitzer (designated as NK 13, fields 1-8, 10-12, 15-20, 23-27) located in New Kent County, Virginia. This submission contains strictly site specific information. Please refer to the operations and maintenance manual submitted under separate cover for all non-site specific information.

Do not hesitate to contact me at (804) 443-2170 should you have any questions or require additional information.

Sincerely,

A handwritten signature in black ink that reads "D. Steve McMahon".

D. Steve McMahon
Sr. Technical Services Director

/cmw



FIELD SUMMARY SHEET

Alvin Stitzer

NK 13

SYNAGRO FIELD #	GROSS ACRES	NET ACRES	FSA TRACT #	TOPO QUAD	OWNER
01	38.7	38.7	None	New Kent	The Stitzer-Ingo Company
02	43.8	43.6	None	New Kent	The Stitzer-Ingo Company
03	51.9	51.9	None	New Kent	The Stitzer-Ingo Company
04	2.5	2.5	None	New Kent	The Stitzer-Ingo Company
05	18.6	18.6	None	New Kent	The Stitzer-Ingo Company
06	20.9	18.8	None	New Kent	The Stitzer-Ingo Company
07	10.1	8.0	None	New Kent	The Stitzer-Ingo Company
08	65.7	65.7	None	New Kent	The Stitzer-Ingo Company
10	22.5	22.5	None	New Kent	The Stitzer-Ingo Company
11	18.0	18.0	None	New Kent	The Stitzer-Ingo Company
12	6.0	6.0	None	New Kent	The Stitzer-Ingo Company
15	16.9	16.9	None	New Kent	The Stitzer-Ingo Company
16	15.7	15.0	None	New Kent	The Stitzer-Ingo Company
17	22.6	22.6	None	New Kent	The Stitzer-Ingo Company
18	20.3	20.2	None	New Kent	The Stitzer-Ingo Company
19	50.4	50.4	None	New Kent	The Stitzer-Ingo Company
20	82.7	73.0	None	New Kent	The Stitzer-Ingo Company
23	37.9	37.0	None	New Kent	The Stitzer-Ingo Company
24	61.1	60.8	None	New Kent	The Stitzer-Ingo Company
25	22.7	22.5	None	New Kent	The Stitzer-Ingo Company
26	70.7	70.7	None	New Kent	The Stitzer-Ingo Company
27	12.9	12.9	None	New Kent	The Stitzer-Ingo Company
TOTALS:	712.6	696.3			

**VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION
FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS**

PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS

A. This land application agreement is made on 6/6/13 between Alvin Stitzer referred to here as "Landowner", and The Stitzer-Ingoo Co. referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

Landowner:

The Landowner is the owner of record of the real property located in New Kent, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) attached as Exhibit A:

Table 1: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges			
Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID
<u>13-1</u>	<u>14-2</u>		
<u>26-1</u>	<u>14-8</u>		
<u>26-1A</u>	<u>14-3A</u>		

☐ Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one:

- ☐ The Landowner is the sole owner of the properties identified herein.
☒ The Landowner is one of multiple owners of the properties identified herein.

If a parcel that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 30 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply residuals as specified below, on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of permitted residuals for the purpose of determining compliance with regulatory requirements applicable to such application.

<u>Class B biosolids</u>	<u>Water treatment residuals</u>	<u>Food processing waste</u>	<u>Other industrial sludges</u>
X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No

Alvin Stitzer
Landowner - Printed Name, Title

Signature

Mailing Address

P.O. Box 523 Quinton, VA 23141

Permittee:

Synagro, the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the ratios identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

☐ I reviewed the document(s) assigning signatory authority to the person signing for landowner above. I will make a copy of this document(s) available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)

D. Steve McMahon
Permittee - Authorized Representative
Printed Name

Signature

Mailing Address

10647 Tidewater Trail /
Champlain, VA 22438

**VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION
FORM D: MUNICIPAL EFFLUENT AND BIOSOLIDS**

PART D-VI: LAND APPLICATION AGREEMENT - BIOSOLIDS AND INDUSTRIAL RESIDUALS

A. This land application agreement is made on 6/6/13 between Alvin Stitzer referred to here as "Landowner", and Synagro, referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

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Table 1.: Parcels authorized to receive biosolids, water treatment residuals or other industrial sludges

<u>Tax Parcel ID</u>	<u>Tax Parcel ID</u>	<u>Tax Parcel ID</u>	<u>Tax Parcel ID</u>
<u>15-1</u>	<u>14-2</u>		
<u>26-1</u>	<u>14-8</u>		
<u>26-1A</u>	<u>14-3A</u>		

☐ Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one:

- ☐ The Landowner is the sole owner of the properties identified herein;
☐ The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

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<u>Class B biosolids</u>	<u>Water treatment residuals</u>	<u>Food processing waste</u>	<u>Other industrial sludges</u>
X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No	X Yes <input type="checkbox"/> No

Alvin Stitzer
Landowner - Printed Name, Title

[Signature]
Signature

P.O. Box 523 Quinton, VA
Mailing Address

23141

Permittee:

Synagro, the Permittee, agrees to apply biosolids and/or industrial residuals on the Landowner's land in the manner authorized by the VPA Permit Regulation and in amounts not to exceed the ratios identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

☐ I reviewed the document(s) assigning signatory authority to the person signing for landowner above. I will make a copy of this document(s) available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)

D. Steve McMahon
Permittee - Authorized Representative
Printed Name

[Signature]
Signature

10647 Tidewater Trail /
Champlain, VA 22438
Mailing Address

VIRGINIA POLLUTION ABATEMENT PERMIT APPLICATION: PART D-VI LAND APPLICATION AGREEMENT

Permittee: Synagro

County or City: New Kent

Landowner: Alvin Stitzer

Landowner Site Management Requirements:

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

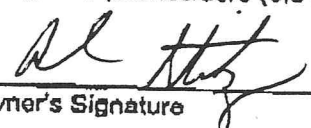
I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. **Notification Signs:** I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.
2. **Public Access**
 - a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
 - b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
 - c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.
3. **Crop Restrictions:**
 - a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
 - b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil,
 - c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
 - d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
 - e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).
4. **Livestock Access Restrictions:**

Following biosolids application to pasture or hayland sites:

 - a. Meat producing livestock shall not be grazed for 30 days,
 - b. Lactating dairy animals shall not be grazed for a minimum of 60 days,
 - c. Other animals shall be restricted from grazing for 30 days;
5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;
6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).


Landowner's Signature

6/6/13
Date

Tax ID Landowner Identification Sheet

<u>Landowner</u>	<u>Field #</u>	<u>Tax ID</u>
The Stitzer-Ingo Company	13-01	14-2
The Stitzer-Ingo Company	13-02	14-2
The Stitzer-Ingo Company	13-03	14-2, 14-3A
The Stitzer-Ingo Company	13-04	14-2
The Stitzer-Ingo Company	13-05	14-2
The Stitzer-Ingo Company	13-06	14-2
The Stitzer-Ingo Company	13-07	14-2
The Stitzer-Ingo Company	13-08	14-2
The Stitzer-Ingo Company	13-10	14-2, 14-3A
The Stitzer-Ingo Company	13-11	14-2
The Stitzer-Ingo Company	13-12	14-2
The Stitzer-Ingo Company	13-16	14-2
The Stitzer-Ingo Company	13-17	14-2
The Stitzer-Ingo Company	13-18	14-2
The Stitzer-Ingo Company	13-19	14-2
The Stitzer-Ingo Company	13-20	14-2
The Stitzer-Ingo Company	13-23	26-1A
The Stitzer-Ingo Company	13-24	26-1A
The Stitzer-Ingo Company	13-25	26-1A
The Stitzer-Ingo Company	13-26	26-1A
The Stitzer-Ingo Company	13-27	26-1A

Field #	Latitude (north)	Longitude (west)
13-01	37°33'08.44"	76°55'49.01"
13-02	37°33'09.23"	76°55'30.23"
13-03	37°33'09.76"	76°55'07.94"
13-04	37°33'17.16"	76°55'04.47"
13-05	37°33'13.27"	76°54'50.27"
13-06	37°33'13.77"	76°54'33.65"
13-07	37°33'06.79"	76°54'40.63"
13-08	37°32'55.67"	76°54'46.63"
13-10	37°32'58.74"	76°55'00.52"
13-11	37°32'58.69"	76°55'12.25"
13-12	37°32'43.31"	76°55'16.42"
13-15	37°32'40.27"	76°55'25.67"
13-16	37°32'41.55"	76°55'07.36"
13-17	37°32'39.66"	76°54'57.43"
13-18	37°32'33.26"	76°55'01.82"
13-19	37°32'27.36"	76°54'45.05"
13-20	37°32'05.79"	76°55'29.82"
13-23	37°32'37.43"	76°54'20.84"
13-24	37°32'34.79"	76°54'07.17"
13-25	37°32'30.36"	76°53'50.35"
13-26	37°32'19.20"	76°53'54.06"
13-27	37°31'38.75"	76°53'26.14"



Environmentally Sensitive Areas

Field	Reason for Sensitive Area
13-01	None
13-02	None
13-03	High Leaching Potential (Map Unit 37A - 5%)
13-04	High Leaching Potential (Map Units 5A, 37A - 86%)
13-05	High Leaching Potential (Map Unit 37A - 27%)
13-06	High Leaching Potential (Map Units 9A, 37A - 86%)
13-07	None
13-08	None
13-09	None
13-10	None
13-11	None
13-12	High Water Table (Map Units 3A, 31A, 42A - 46%)
13-15	None
13-16	High Water Table (Map Units 31A, 39A, 42A - 67%)
13-17	High Water Table (Map Units 42A - 9%)
13-18	None
13-19	High Leaching Potential (Map Unit 23%)
13-20	High Water Table (Map Units 31A, 42A - 48%)
13-23	High Leaching Potential (Map Units 9A, 37A - 22%)
13-24	High Leaching Potential (Map Unit 9A - 6%)
13-25	None
13-26	None
13-27	High Water Table (Map Unit 42A - 7%)

New Kent County Soils that are Environmentally Sensitive

Soil Map Unit	Series Name	Time of year		Environmental
		High Water	Flooded	
3A	Augusta	Dec – May		
4A	Bohicket	Jan – Dec	Jan – Dec	
5A	Bojac			Leaching
8A	Catpoint			Leaching
9A	Conetoe			Leaching
16A	Johnston	Nov – June	Nov – June	Drainage
21A	Lanexa	Jan – Dec	Jan – Dec	Drainage
22A	Mattan	Jan – Dec	Jan – Dec	Drainage
24A, 25A	Nawney	Jan – Dec	Jan – Dec	
27A	Nimmo	Dec – April		Drainage
31A	Roanoke	Nov – April		
37A	Tarboro			Leaching
39A	Tomotley	Nov – April		
40B	Uchee			Leaching
42A	Wahee	Dec – March		

MAP LEGEND



House/Dwelling with a well



Rock Outcrop



Well



Lake/Pond



Slope which exceeds 15%



Intermittent Stream



Stream/River



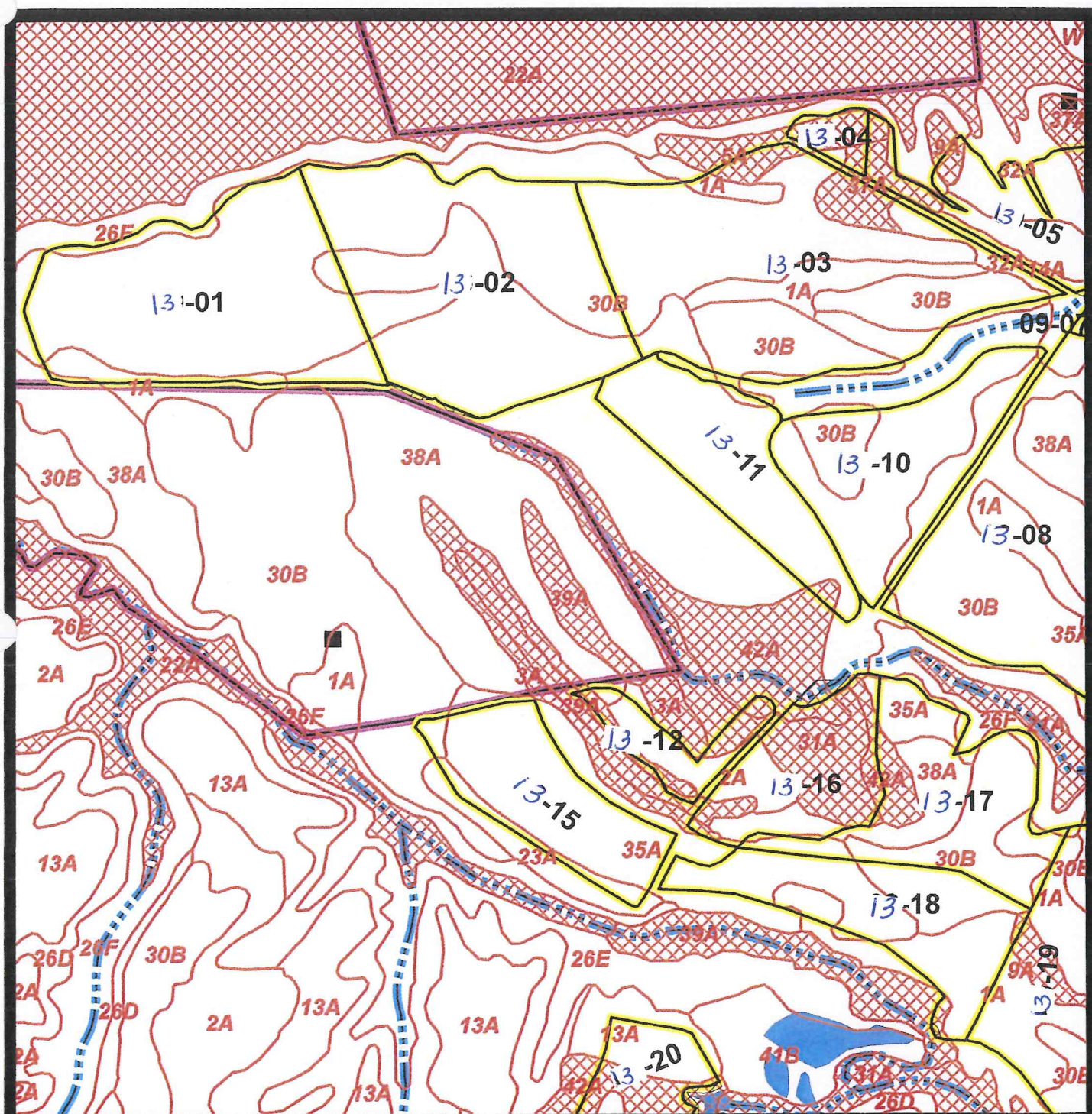
Agricultural/Drainage Ditch



Field boundary



Property Line

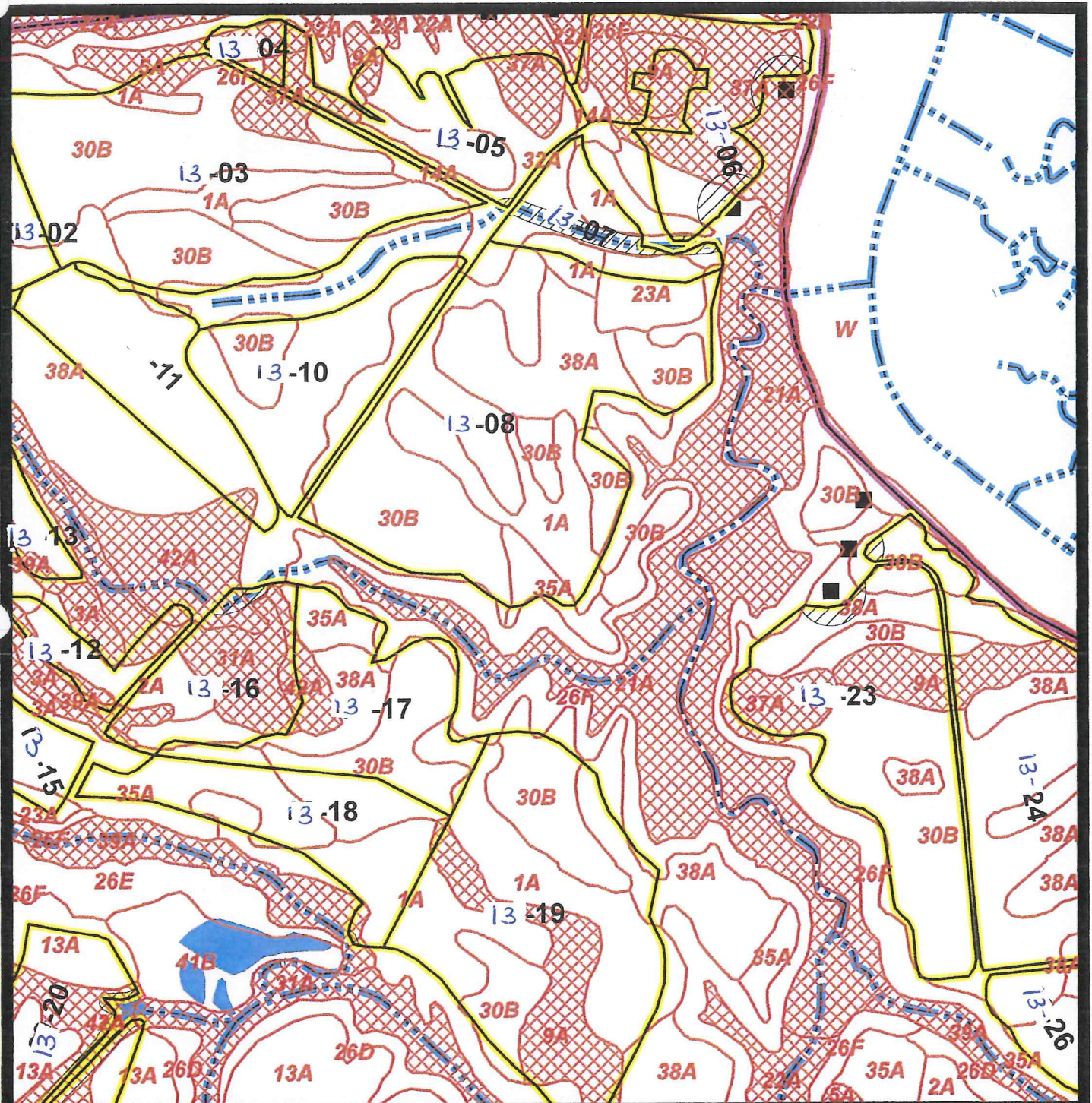


SCALE 1:10,000

SOIL MAP


 Environmentally Sensitive Areas





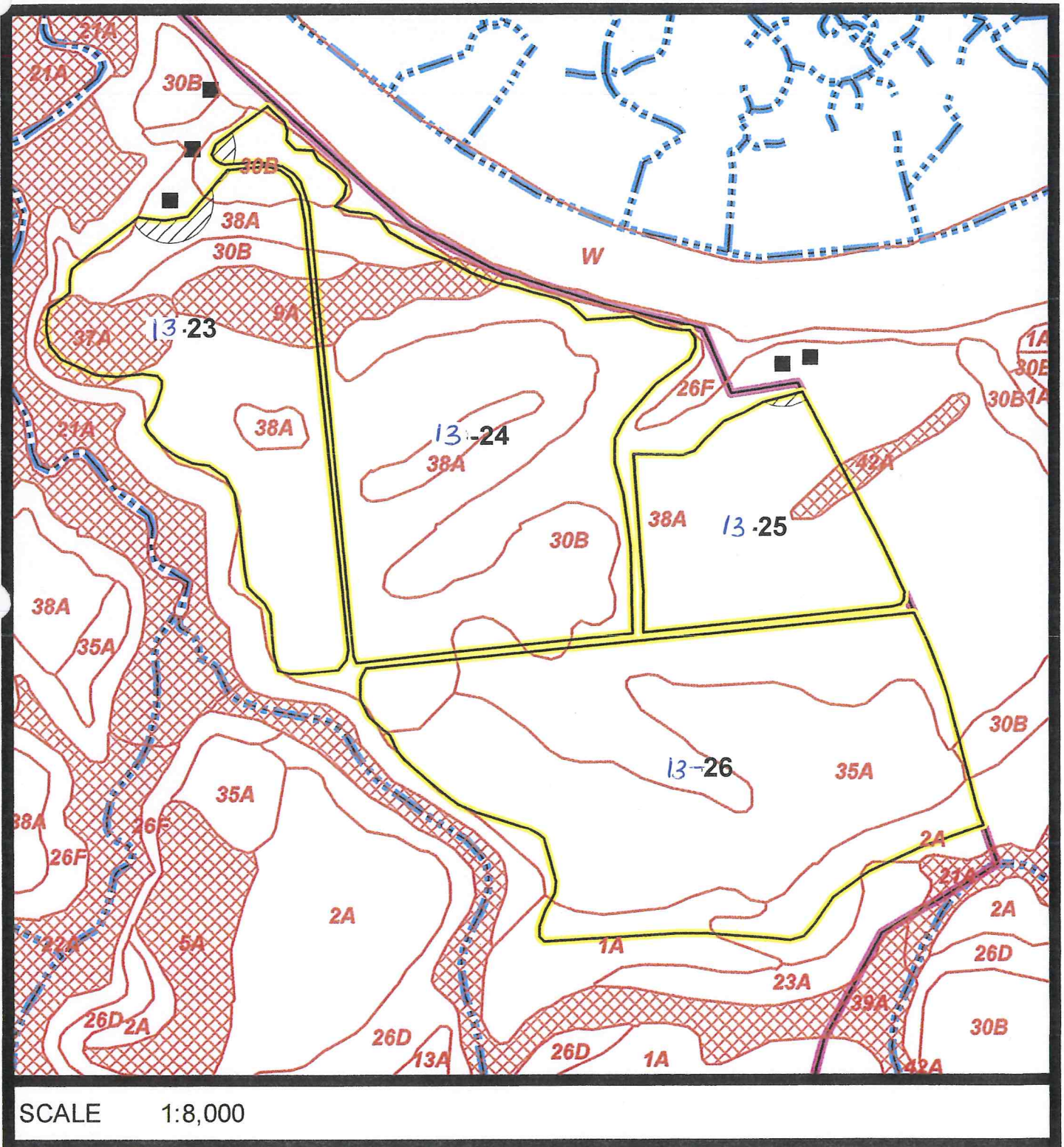
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SOIL MAP


 Environmentally Sensitive Areas



 Environmentally Sensitive Areas

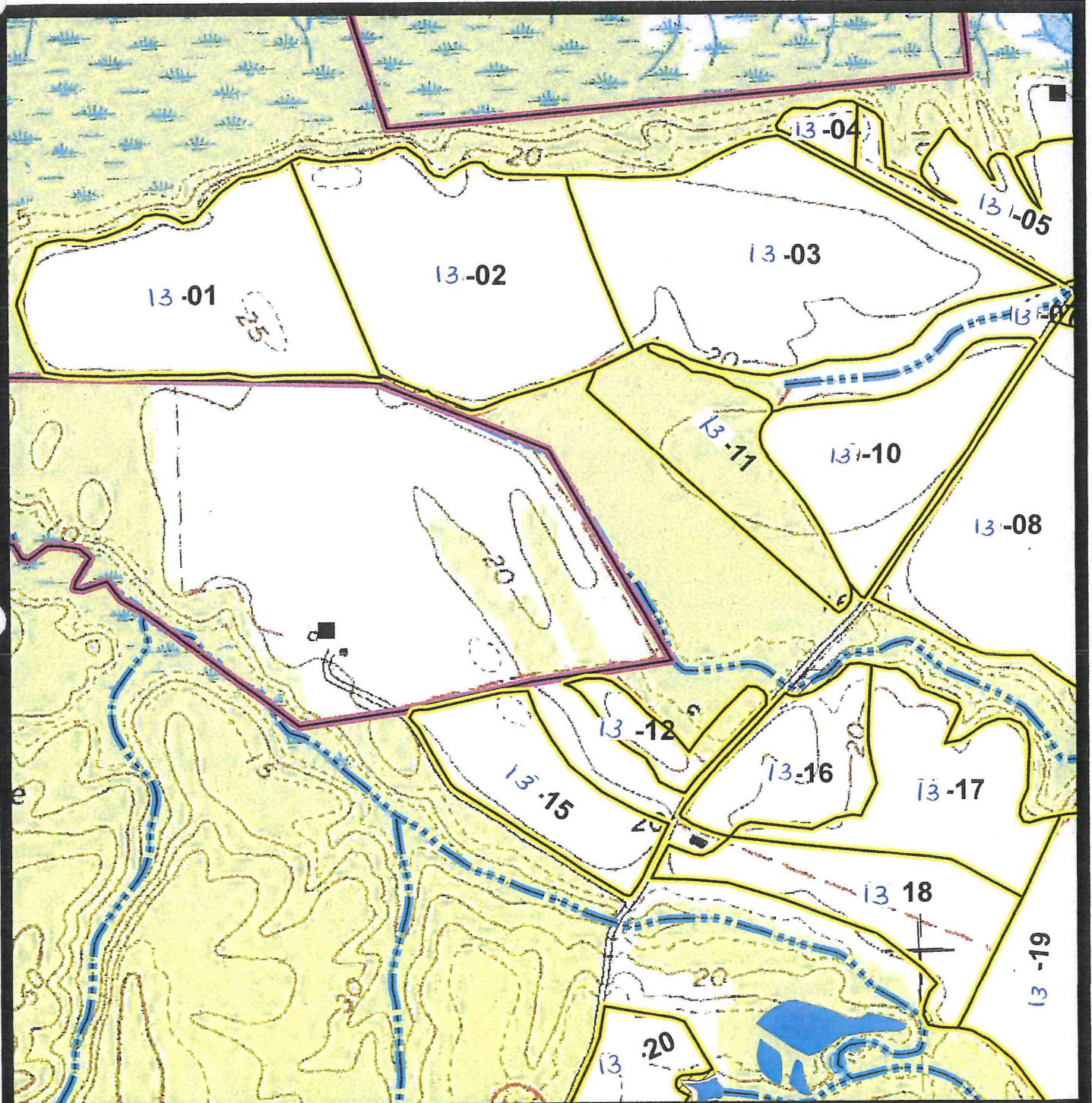


SOIL MAP

 Environmentally Sensitive Areas



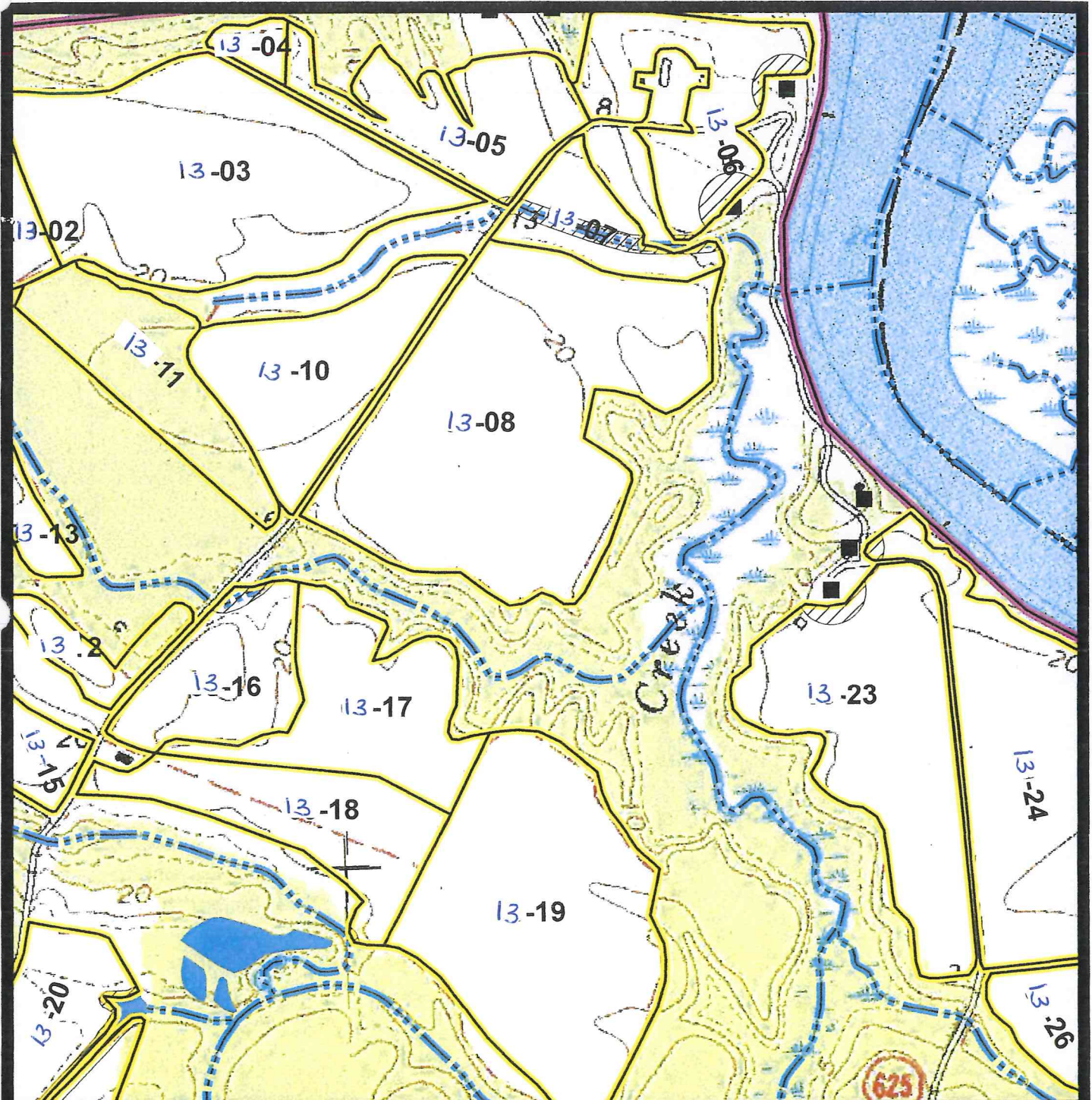
 Environmentally Sensitive Areas



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TOPO MAP

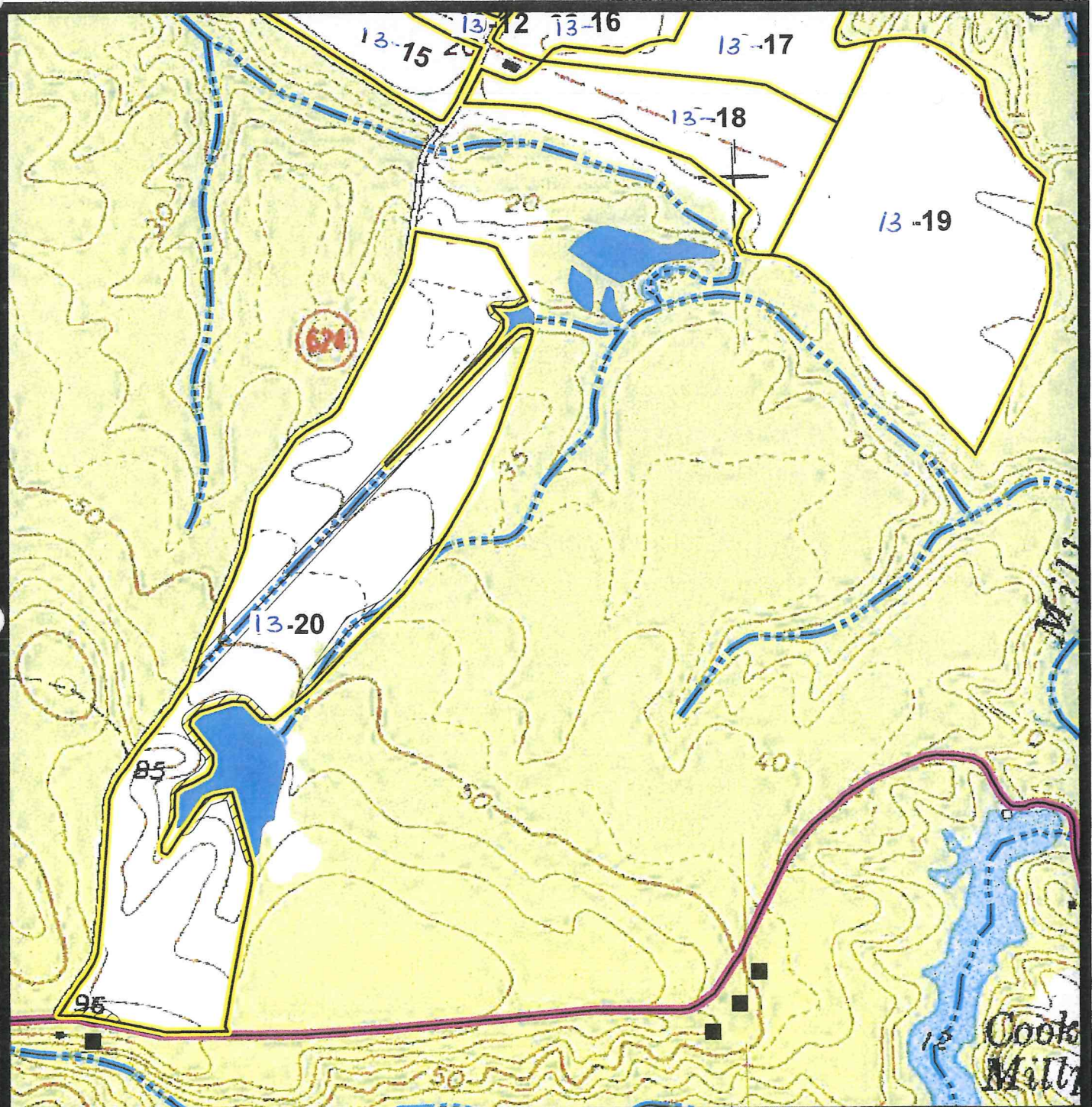




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TOPO MAP

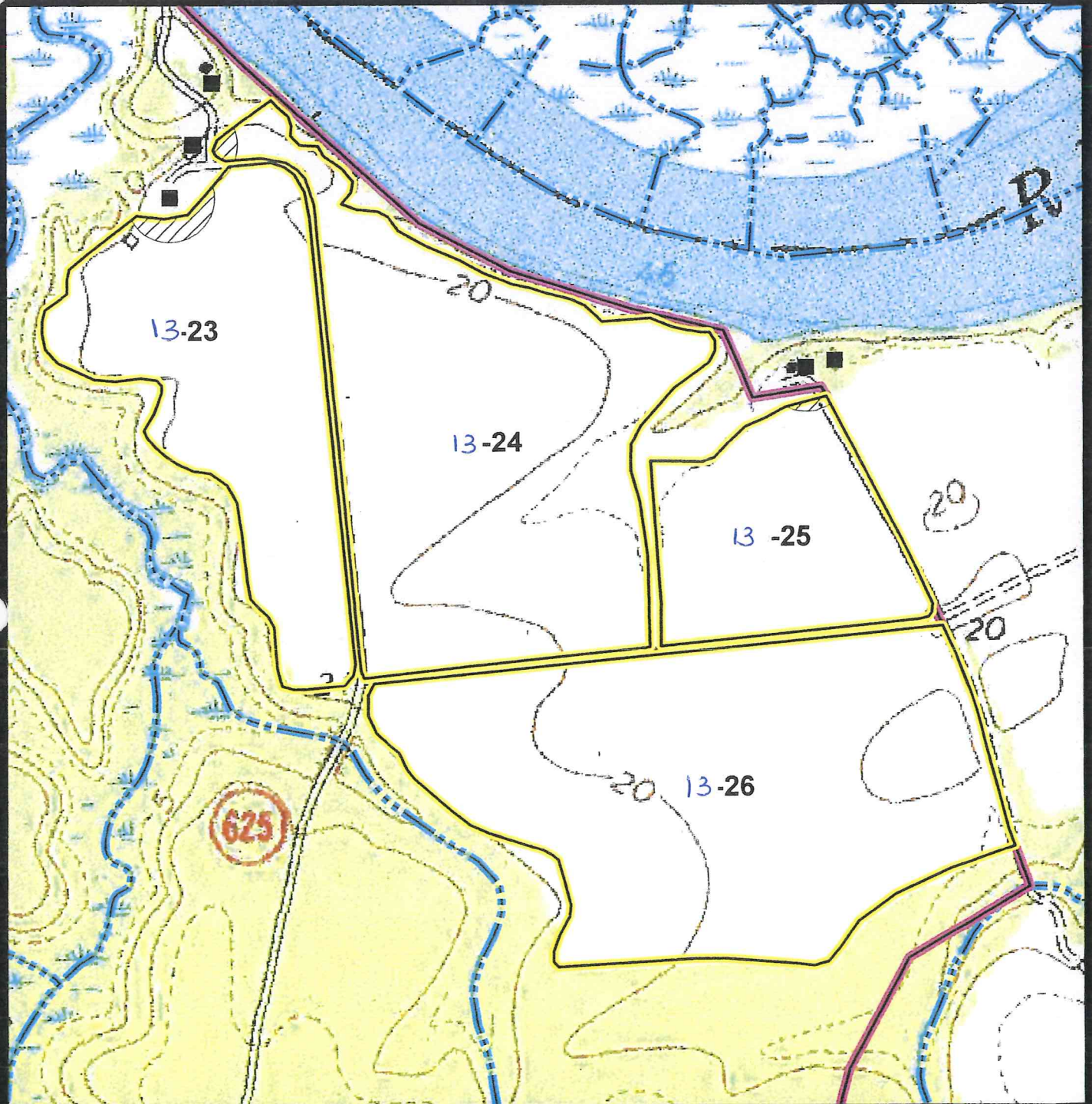




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TOPO MAP

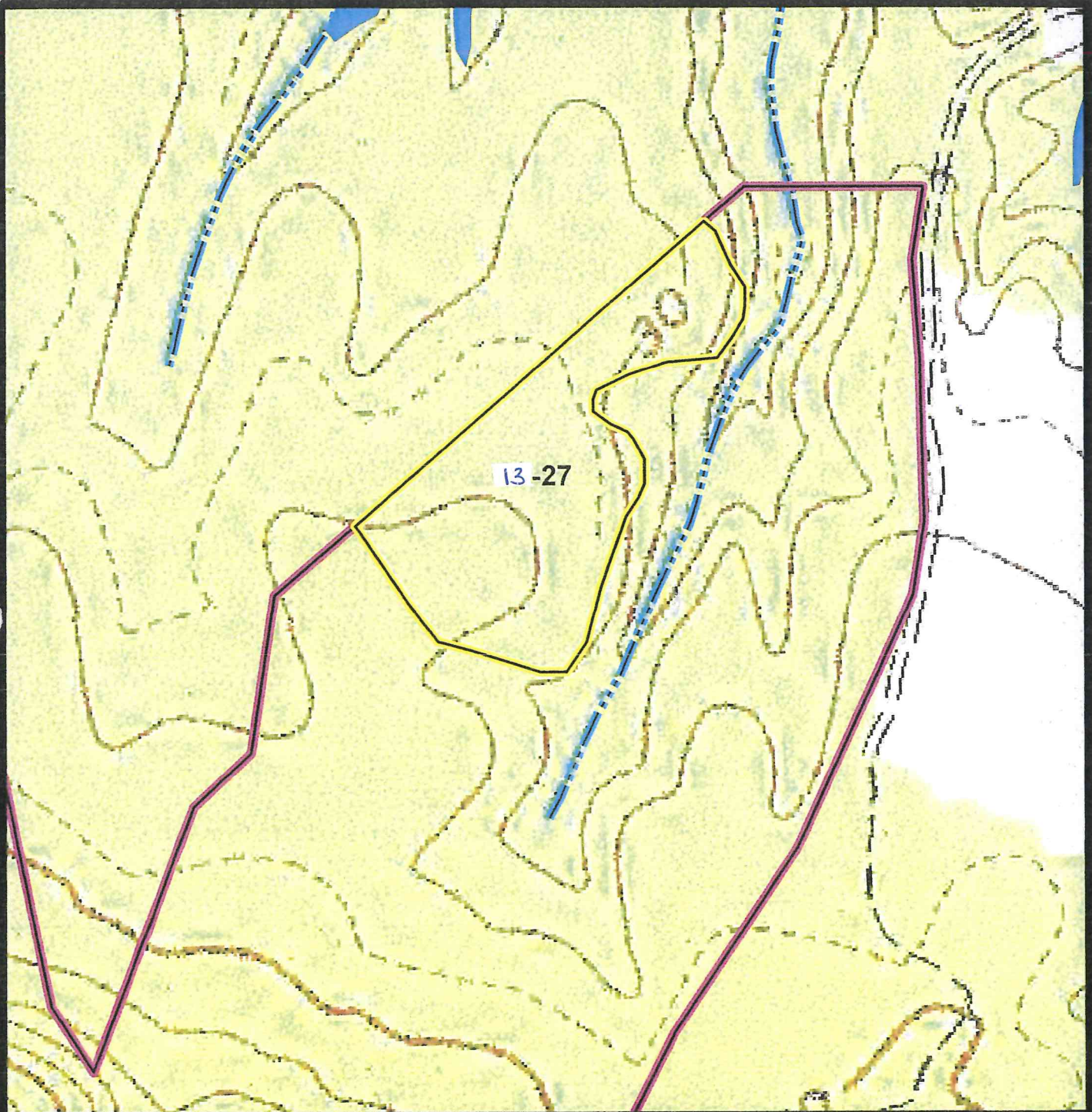




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TOPO MAP

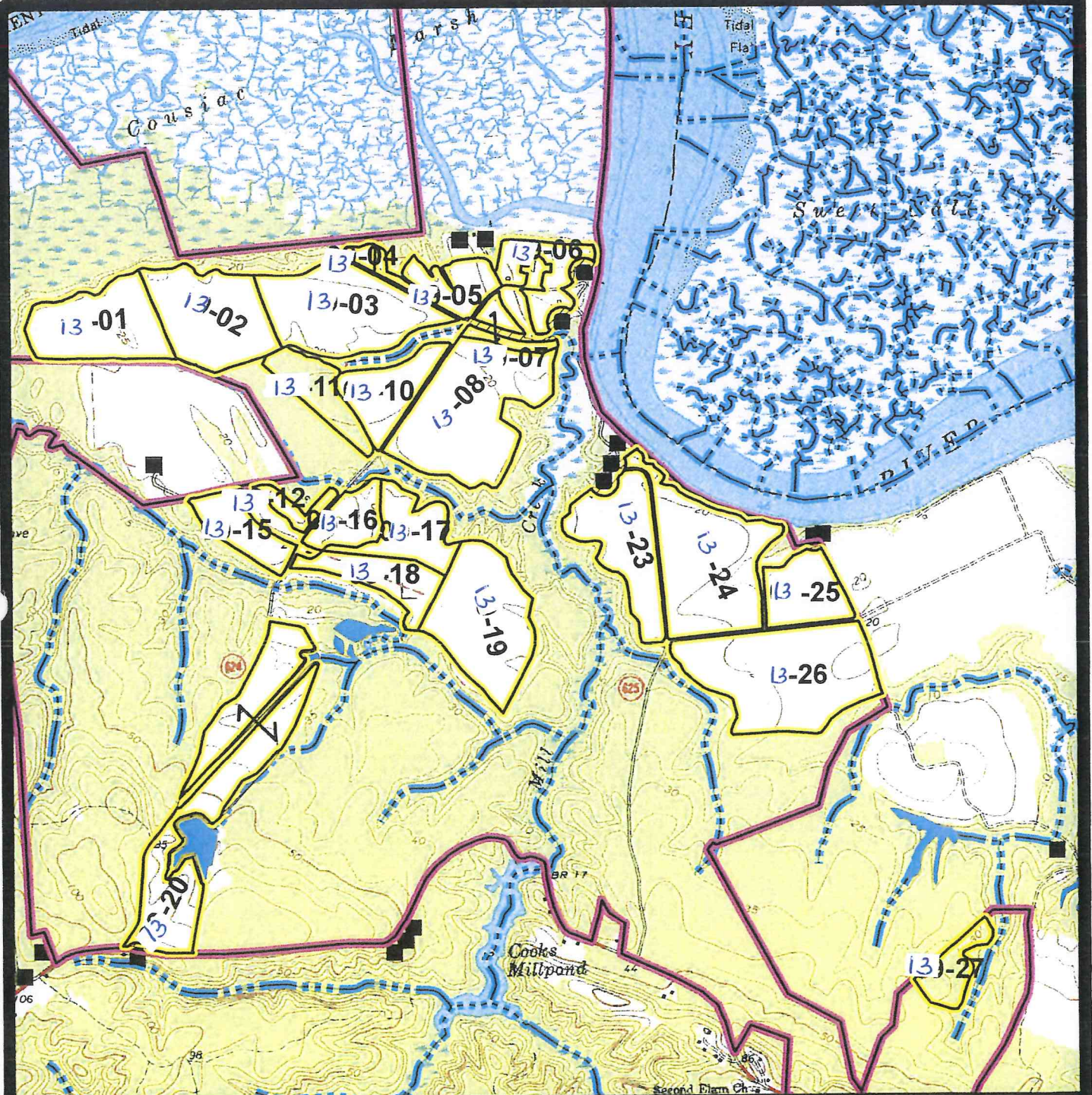




SCALE 1:5,000

TOPO MAP





SCALE 1:24,000

TOPO MAP

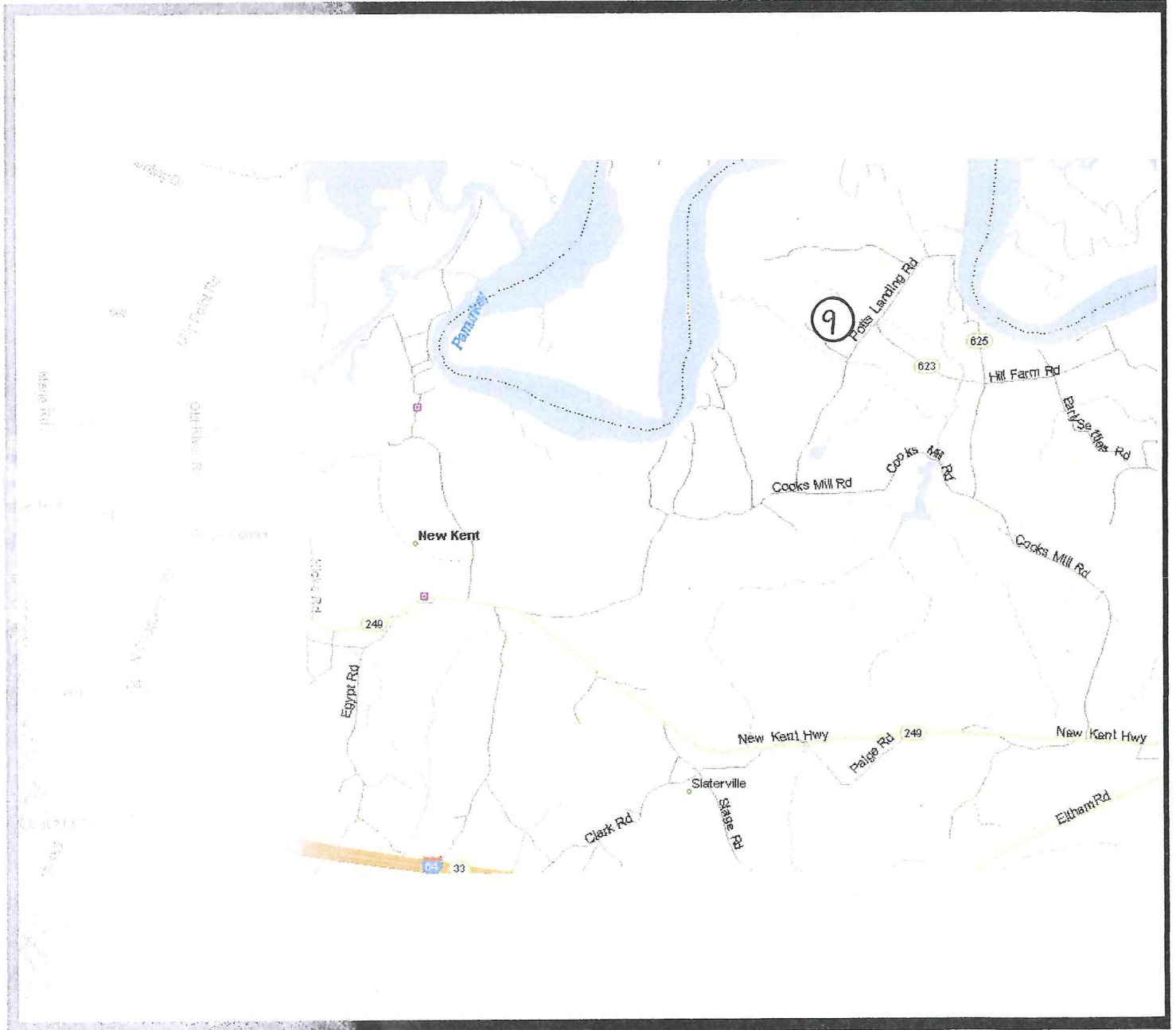




Alvin Stitzer

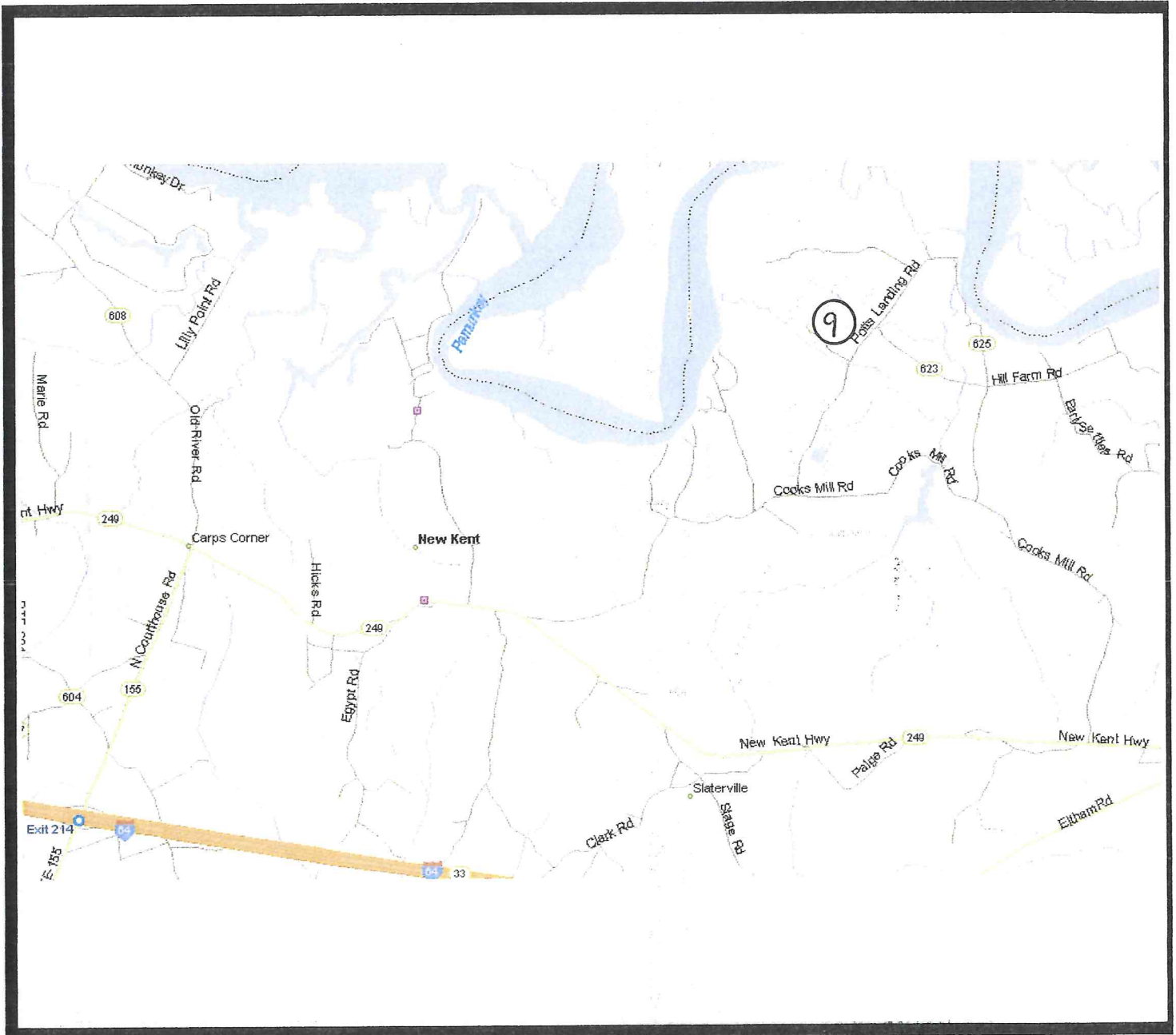
NK' 13

Fields 1-8, 10-12, 15-20, 23-27



LOCATION MAP





LOCATION MAP

